

**BEFORE THE
PUBLIC SERVICE COMMISSION
OF SOUTH CAROLINA**

DOCKET NO. 2013-201-WS

In the Matter of:

**Application of Utilities Services Inc. of)
South Carolina, Inc.)
For Adjustment of Rates and Charges)
and Modification of Certain Terms and)
Conditions for the Provision of)
Water and Sewer Service)**

Rebuttal Testimony

of

**Pauline M. Ahern, CRRA
Principal
AUS Consultants**

On Behalf of

Utilities Services of South Carolina, Inc.

October 16, 2013

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1 **Introduction**

2 **Q. Please state your name, occupation and business address.**

3 A. My name is Pauline M. Ahern and I am a Principal at AUS Consultants. My business
4 address is 155 Gaither Drive, Suite A, Mt. Laurel, New Jersey 08054.

5 **Q. Are you the same Pauline M. Ahern who previously submitted prepared direct**
6 **testimony in this proceeding?**

7 A. Yes, I am.

8 **Purpose**

9 **Q. What is the purpose of this testimony?**

10 A. The purpose of this testimony is to rebut certain aspects of the direct testimony of
11 Douglas H. Carlisle, Ph.D., witness for the Office of the Regulatory Staff (ORS).
12 Specifically, I will address his opinion regarding the ratemaking long-term debt cost rate
13 for Utilities Services of South Carolina, Inc. (USSC or the Company).

14 **Q. Have you prepared an Exhibit which supports your rebuttal testimony?**

15 A. Yes. It has been marked as Exhibit PMA-2 and consists of Schedules 1R through 3R.

16 **Long-Term Debt Cost Rate**

17 **Q. Please comment upon Dr. Carlisle's assertion that because Utilities Inc.'s (UI or the**
18 **Parent) Series 2006-A Collateral Trust Notes are "interest-only borrowing" that the**
19 **"interest has been accumulating and will form a new basis to be repaid, so it acts**
20 **like principle [sic]."**

21 A. Dr. Carlisle's assertion is incorrect because, as the Company informs me, the interest on
22 the Notes is not accumulating and adding to the principal. UI issued \$180M of the Notes
23 in July 2006, carries the principal outstanding of \$180M on its balance sheet and \$180M

1 of debt is used to develop the capital structure ratios in this proceeding. In addition, the
2 principal payments of \$59M which begin in July 2017, aggregate to \$180M, the original
3 amount issuance.

4 Moreover, most of the long-term debt of public utilities consists of long-term
5 issuances without sinking fund payments or amortizing principal payments. Most of these
6 issuances simply pay interest only while the debt is outstanding and then pay a “balloon”
7 payment of the entire principal upon maturity. There are some issuances, like that of UI
8 which pay interest only for a period of time and then begin to make sinking fund
9 payments to reduce both the debt outstanding and the average term of the debt, which
10 serves to add more than the 0.02% to the Notes coupon rate of 6.58% to reflect issuance
11 costs.

12 **Q. Do you agree with Dr. Carlisle’s recommendation that the lower end of his return**
13 **on common equity cost rate range be authorized in this proceeding because the**
14 **Company’s ratemaking debt cost rate is based, in part, upon a period of interest**
15 **only payments as he discusses on page 14, line 11 of his direct testimony?**

16 **A.** No, I do not. To recommended the low end of the range of common equity cost rate
17 because the debt cost rate is based upon a debt issue for which only part of the debt
18 schedule payments are interest only, is unorthodox, at best. The cost of common equity
19 should reflect the risk of equity investment in the Company and not be used to penalize
20 the Company for what is perceived as an “excessive” interest cost and imprudent debt
21 issuance.

22 **Q. Do you agree with Dr. Carlisle’s characterization that UI has incurred “excessive**
23 **interest” on its outstanding debt?**

1 A. No, I do not. The issuance of the Series 2006-A Collateral Trust Notes occurred in July
2 2006, when Moody's Baa public utility bonds were yielding 6.61%. Hence, the coupon
3 rate on the bonds of 6.58% was more than prudent at the time of issuance. In addition, the
4 6.60% effective cost rate, which reflects issuance costs, is also prudent.

5 **Q. How does a debt cost rate of 6.58% or 6.60% compare with what either UI or USSC**
6 **could borrow at in the current economic and capital market environment.**

7 A. The 6.58% coupon rate and 6.60% effective debt cost rate on the Collateral Trust Notes is
8 and will continue to be prudent in light of both current and expected capital costs.

9 Page 1 of Schedule 1R of Exhibit PMA-2 shows estimated Standard & Poor's
10 credit metrics for UI for the years 2003 – 2012, inclusive. During the ten years ended
11 2012, UI's rate of return on average book common equity ranged from a negative 0.40%
12 to 8.13%, averaging just 4.56% for the period, indicating a financially depressed
13 company. Also, total debt to EBITDA (earnings before interest, income taxes,
14 depreciation and amortization) ranged from 4.34 times to 10.32 times, averaging 6.68
15 times, funds from operations (FFO) to total debt ranged from a negative 6.59% to
16 23.51%, averaging 7.27% and total debt to total capital ranged from 50.31% to 59.83%,
17 averaging 55.78%. Recognizing that Standard & Poor's (S&P) bond/credit rating process
18 is more comprehensive than simply evaluating a company's credit metrics, in my
19 opinion, when these metrics of UI are compared with those in Table 2 S&P's Financial
20 Risk Indicative Ratios (Corporates) on page 3 of Schedule 2R, S&P's "Methodology"
21 Business Risk / Financial Risk Matrix Expanded", were S&P to assign a financial risk
22 profile to UI, it would be "Highly Leveraged" or possibly "Aggressive", at best. Turning
23 to Table 1, S&P's Business and Financial Risk Profile Matrix on page 2 of Schedule 2R,

1 with a “Highly Leveraged” financial risk profile, UI’s bond / credit rating would not even
2 be investment grade regardless of its business risk profile. If UI were assigned an
3 “Aggressive” financial risk profile, which I believe is a generous assumption, at best, UI
4 would need to be assigned an “Excellent” business risk profile for UI’s bond / credit
5 rating be investment grade. Most institutional investors, such as pension funds and
6 insurance companies, like the holders of UI’s Collateral Trust Notes, are precluded from
7 investing in below investment grade debt.

8 **Q. What are current and expected trends in the yields on Baa, or investment grade,**
9 **debt?**

10 A. As shown on page 2 of Schedule 3R of Exhibit PMA-2, Moody’s Baa rated public utility
11 bonds yielded an average 5.28% in August (the latest available from the September
12 Mergent Bond Record) while Aaa corporate bonds yielded an average 4.54%
13 representing a spread of 0.74% (74 basis points). The June 1, 2013 Blue Chip Financial
14 Forecasts (Blue Chip)¹ projected an average yield on Moody’s Aaa corporate bonds of
15 5.8% for the period 2015-2019 and 6.3% for 2020-2024. In addition, Value Line
16 Investment Survey’s (Value Line)² published its forecast for the U.S. Economy in its
17 August 23, 2013, Selection & Opinion. In its forecast, Value Line projected the yield on
18 AAA corporate bonds to rise from average 4.4% in 2013 to 5.3% in 2014, 5.7% in 2015,
19 6.0% in 2016 / 2017. Given the current spread of 0.74% between the yields on Moody’s
20 Aaa corporate and Baa public utility bonds, this suggests that Baa public utility bond will
21 be yielding 6.54% for the period 2015-2019 and 7.04% for 2020-2024 based upon Blue

¹ Blue Chip Financial Forecasts, June 1, 2013, p. 4.

² Selection & Opinion, Value Line Investment Survey, Value Line, Inc., August 23, 2013, p. 787.

1 Chip's forecasts. Based upon Value Line's forecasts, this means that Baa public utility
2 bonds will be yielding 6.04% in 2014, 6.44% on 2015, and 6.74% in 2016 / 2017.

3 Hence, UI's debt cost of 6.60% remains prudent given the current and expected
4 yield in Moody's Baa rated public utility bonds.

5 It is not possible to estimate USSC's credit metrics as it is carried on its books at
6 100% common equity and it does not publish a cash flow statement. However, page 2 of
7 Schedule 1R presents the revenues and net income for USSC from the years 2003– 2012.
8 Based upon its almost continuous net losses from 2003 – 2012 as well as its small size as
9 testified to by Company Witness Dylan W. D'Ascendis in his direct testimony, in my
10 opinion, USSC would not be able to issue any debt on its own nor is it likely that USSC
11 would be able to issue common stock in the market either. In addition, were USSC able
12 to issue debt, the likely coupon rate would be significantly higher than current or
13 expected Baa public utility bond rates discussed above without regard to necessary
14 issuance expenses, i.e., commitment fees, placement fees, attorneys' fees and the like
15 which can be significantly large for the extremely small issuances of a company the size
16 of USSC. However, in my opinion, were USSC even able to place debt in the market, it
17 likely would be facing a coupon rate of somewhere between 10% and 15% given its poor
18 financial performance over the last several years as well as its small size. Since investors
19 demand a premium to invest in common equity rather than debt, an equity risk premium
20 must be added to the debt cost rate. Using the 4.80% equity risk premium over public
21 utility bond yields testified to by Mr. D'Ascendis in Exhibit DWD-1, Schedule 5, page 7,
22 a common equity cost rate range of 14.80% to 19.80% results.

23 **Q. Does that conclude your rebuttal testimony?**

1 A. Yes.

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**Exhibit to Accompany the
Rebuttal Testimony**

of

**Pauline M. Ahern, CRRA
Principal
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On Behalf of

Utilities Services of South Carolina, Inc.

October 16, 2013

Utilities, Inc.
CAPITALIZATION AND FINANCIAL STATISTICS (1)
2003 - 2012, Inclusive

	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003
	(MILLIONS OF DOLLARS)									
CAPITALIZATION STATISTICS										
AMOUNT OF CAPITAL EMPLOYED										
TOTAL PERMANENT CAPITAL	\$343,258	\$357,007	\$357,771	\$344,230	\$337,737	\$338,372	\$300,831	\$219,234	\$199,546	\$195,747
SHORT-TERM DEBT	\$0,500	\$0,000	\$0,000	\$17,000	\$49,775	\$15,500	\$0,000	\$3,926	\$18,768	\$2,094
TOTAL CAPITAL EMPLOYED	\$343,758	\$357,007	\$357,771	\$361,230	\$387,512	\$353,872	\$300,831	\$222,160	\$218,314	\$197,841
CAPITAL STRUCTURE RATIOS										
BASED ON TOTAL PERMANENT CAPITAL:										
LONG-TERM DEBT	52.44 %	50.42 %	50.31 %	52.29 %	53.30 %	53.20 %	59.83 %	57.56 %	55.42 %	57.63 %
PREFERRED STOCK	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %
COMMON EQUITY	47.56 %	49.58 %	49.69 %	47.71 %	46.70 %	46.80 %	40.17 %	42.44 %	44.58 %	42.37 %
TOTAL	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
BASED ON TOTAL CAPITAL:										
TOTAL DEBT, INCLUDING SHORT-TERM	52.51 %	50.42 %	50.31 %	54.54 %	59.29 %	55.25 %	59.83 %	58.31 %	59.25 %	58.08 %
PREFERRED STOCK	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %
COMMON EQUITY	47.49 %	49.58 %	49.69 %	45.46 %	40.71 %	44.75 %	40.17 %	41.69 %	40.75 %	41.92 %
TOTAL	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
RATE OF RETURN ON AVERAGE BOOK COMMON EQUITY	8.13 %	4.53 %	7.92 %	3.41 %	-0.40 %	1.20 %	3.57 %	3.95 %	6.93 %	6.31 %
TOTAL DEBT / EBITDA (2)	5.74 x	4.34 x	5.23 x	6.40 x	10.32 x	8.11 x	9.12 x	6.86 x	5.51 x	5.20 x
FUNDS FROM OPERATIONS / TOTAL DEBT (4)	11.20 %	10.56 %	7.40 %	4.94 %	-6.59 %	-1.22 %	4.88 %	23.51 %	5.91 %	12.12 %
TOTAL DEBT / TOTAL CAPITAL	52.51 %	50.42 %	50.31 %	54.54 %	59.29 %	55.25 %	59.83 %	58.31 %	59.25 %	58.08 %
										55.78 %

Source of Information: Utilities, Inc. Audited Financial Statements for the years 2003 - 2012

Utilities Services Of South Carolina, Inc.
Revenues and Net Income for the years 2003 - 2012

<u>Year</u>	<u>Revenue</u>	<u>Net Income (Loss)</u>
2003	\$ 2,283,798	\$ 77,204
2004	\$ 2,333,013	\$ (17,815)
2005	\$ 2,286,913	\$ (430,003)
2006	\$ 2,878,460	\$ (245,379)
2007	\$ 2,904,417	\$ (184,474)
2008	\$ 3,526,910	\$ 578,559
2009	\$ 3,405,071	\$ 101,273
2010	\$ 3,309,064	\$ 47,139
2011	\$ 3,340,345	\$ (463,172)
2012	\$ 3,247,495	\$ (172,867)

Source of Information: Company provided

RatingsDirect®

Criteria | Corporates | General:

Methodology: Business Risk/Financial Risk Matrix Expanded

Criteria Officer:

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Criteria | Corporates | General:

Methodology: Business Risk/Financial Risk Matrix Expanded

1. Standard & Poor's Ratings Services is refining its methodology for corporate ratings related to its business risk/financial risk matrix, which we published as part of "2008 Corporate Ratings Criteria" on April 15, 2008. We subsequently updated this matrix in the article "Criteria Methodology: Business Risk/Financial Risk Matrix Expanded," published May 27, 2009. In order to provide greater transparency on the methodology used to evaluate corporate ratings, this article updates table 1 of the May 27, 2009, article to reflect how we analyze companies with an excellent business risk profile and minimal financial risk profile, as well as companies with a vulnerable business risk profile and a highly leveraged financial risk profile. This article amends and supersedes both the 2008 and 2009 articles mentioned above. This article is related to "Principles Of Credit Ratings," published on Feb. 16, 2011.
2. We introduced the business risk/financial risk matrix in 2005. The relationships depicted in the matrix represent an essential element of our corporate analytical methodology (see table 1).

Table 1

Business And Financial Risk Profile Matrix						
Business Risk Profile	--Financial Risk Profile--					
	Minimal	Modest	Intermediate	Significant	Aggressive	Highly Leveraged
Excellent	AAA/AA+	AA	A	A-	BBB	--
Strong	AA	A	A-	BBB	BB	BB-
Satisfactory	A-	BBB+	BBB	BB+	BB-	B+
Fair	--	BBB-	BB+	BB	BB-	B
Weak	--	--	BB	BB-	B+	B-
Vulnerable	--	--	--	B+	B	B- or below

These rating outcomes are shown for guidance purposes only. Actual rating should be within one notch of indicated rating outcomes.

3. The rating outcomes refer to issuer credit ratings. The ratings indicated in each cell of the matrix are the midpoints of a range of likely rating possibilities. This range would ordinarily span one notch above and below the indicated rating.

Business Risk/Financial Risk Framework

4. Our corporate analytical methodology organizes the analytical process according to a common framework, and it divides the task into several categories so that all salient issues are considered. The first categories involve fundamental business analysis; the financial analysis categories follow.
5. Our ratings analysis starts with the assessment of the business and competitive profile of the company. Two companies with identical financial metrics can be rated very differently, to the extent that their business challenges and prospects differ. The categories underlying our business and financial risk assessments are:

Criteria | Corporates | General: Methodology: Business Risk/Financial Risk Matrix Expanded

Business risk

- Country risk
- Industry risk
- Competitive position
- Profitability/Peer group comparisons

Financial risk

- Accounting
- Financial governance and policies/risk tolerance
- Cash flow adequacy
- Capital structure/asset protection
- Liquidity/short-term factors

6. We do not have any predetermined weights for these categories. The significance of specific factors varies from situation to situation.

Updated Matrix

7. We developed the matrix to make explicit the rating outcomes that are typical for various business risk/financial risk combinations. It illustrates the relationship of business and financial risk profiles to the issuer credit rating.
8. We tend to weight business risk slightly more than financial risk when differentiating among investment-grade ratings. Conversely, we place slightly more weight on financial risk for speculative-grade issuers (see table 1, again).
9. This version of the matrix represents a refinement—not any change in rating criteria or standards--and, consequently, no rating changes are expected. However, the expanded matrix should enhance the transparency of the analytical process.

Financial Benchmarks

Table 2

Financial Risk Indicative Ratios (Corporates)

	FFO/Debt (%)	Debt/EBITDA (x)	Debt/Capital (%)
Minimal	greater than 60	less than 1.5	less than 25
Modest	45-60	1.5-2.0	25-35
Intermediate	30-45	2-3	35-45
Significant	20-30	3-4	45-50
Aggressive	12-20	4-5	50-60
Highly Leveraged	less than 12	greater than 5	greater than 60

How To Use The Matrix--And Its Limitations

10. The rating matrix indicative outcomes are what we typically observe--but are not meant to be precise indications or

Criteria | Corporates | General: Methodology: Business Risk/Financial Risk Matrix Expanded

guarantees of future rating opinions. Positive and negative nuances in our analysis may lead to a notch higher or lower than the outcomes indicated in the various cells of the matrix.

11. In certain situations there may be specific, overarching risks that are outside the standard framework, e.g., a liquidity crisis, major litigation, or large acquisition. This often is the case regarding issuers at the lowest end of the credit spectrum--i.e., the 'CCC' category and lower. These ratings, by definition, reflect some impending crisis or acute vulnerability, and the balanced approach that underlies the matrix framework just does not lend itself to such situations.
12. Similarly, some matrix cells are blank because the underlying combinations are highly unusual--and presumably would involve complicated factors and analysis.
13. The following hypothetical example illustrates how the tables can be used to better understand our rating process (see tables 1 and 2).
14. We believe that Company ABC has a satisfactory business risk profile, typical of a low investment-grade industrial issuer. If we believed its financial risk were intermediate, the expected rating outcome should be within one notch of 'BBB'. ABC's ratios of cash flow to debt (35%) and debt leverage (total debt to EBITDA of 2.5x) are indeed characteristic of intermediate financial risk.
15. It might be possible for Company ABC to be upgraded to the 'A' category by, for example, reducing its debt burden to the point that financial risk is viewed as minimal. Funds from operations (FFO) to debt of more than 60% and debt to EBITDA of only 1.5x would, in most cases, indicate minimal financial risk.
16. Conversely, ABC may choose to become more financially aggressive--perhaps it decides to reward shareholders by borrowing to repurchase its stock. It is possible that the company may fall into the 'BB' category if we view its financial risk as significant. FFO to debt of 20% and debt to EBITDA of 4x would, in our view, typify the significant financial risk category.
17. Still, it is essential to realize that the financial benchmarks are guidelines, neither gospel nor guarantees. They can vary in nonstandard cases: For example, if a company's financial measures exhibit very little volatility, benchmarks may be somewhat more relaxed.
18. Moreover, our assessment of financial risk is not as simplistic as looking at a few ratios. It encompasses:
 - A view of accounting and disclosure practices;
 - A view of corporate governance, financial policies, and risk tolerance;
 - The degree of capital intensity, flexibility regarding capital expenditures and other cash needs, including acquisitions and shareholder distributions; and
 - Various aspects of liquidity--including the risk of refinancing near-term maturities.
19. The matrix addresses a company's standalone credit profile, and does not take account of external influences, which would pertain in the case of government-related entities or subsidiaries that in our view may benefit or suffer from affiliation with a stronger or weaker group. The matrix refers only to local-currency ratings, rather than foreign-currency ratings, which incorporate additional transfer and convertibility risks. Finally, the matrix does not

Criteria | Corporates | General: Methodology: Business Risk/Financial Risk Matrix Expanded

apply to project finance or corporate securitizations.

Related Criteria And Research

- Principles Of Credit Ratings, Feb. 16, 2011
 - Criteria Methodology: Business Risk/Financial Risk Matrix Expanded, May 27, 2009
 - 2008 Corporate Ratings Criteria, April 15, 2008
20. These criteria represent the specific application of fundamental principles that define credit risk and ratings opinions. Their use is determined by issuer- or issue-specific attributes as well as Standard & Poor's Ratings Services' assessment of the credit and, if applicable, structural risks for a given issuer or issue rating. Methodology and assumptions may change from time to time as a result of market and economic conditions, issuer- or issue-specific factors, or new empirical evidence that would affect our credit judgment.

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McGRAW-HILL

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MERGENT BOND RECORD

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Corporate Bond Yield Averages

	AV. CORP.	CORPORATE BY RATINGS				CORPORATE BY GROUPS				PUBLIC UTILITY BONDS				INDUSTRIAL BONDS				RAILROAD BONDS				
		Aaa	Aa	A	Baa	P.U.	IND.	R.R.		Aaa	Aa	A	Baa	Aaa	Aa	A	Baa	Aaa	Aa	A	Baa	
2008																						
Jan.	6.02	5.33	5.78	6.06	6.54	6.08	5.96	----	Jan.	5.87	6.02	6.35	Jan.	5.33	5.68	6.10	6.73	Jan.	----	----	----	----
Feb.	6.24	5.53	5.97	6.26	6.82	6.28	6.19	----	Feb.	6.04	6.21	6.60	Feb.	5.53	5.90	6.30	7.04	Feb.	----	----	----	----
Mar.	6.24	5.51	5.90	6.24	6.89	6.29	6.17	----	Mar.	5.99	6.21	6.68	Mar.	5.51	5.80	6.27	7.10	Mar.	----	----	----	----
Apr.	6.29	5.55	5.93	6.30	6.97	6.36	6.21	----	Apr.	5.99	6.29	6.81	Apr.	5.55	5.86	6.31	7.12	Apr.	----	----	----	----
May	6.30	5.57	6.00	6.30	6.92	6.38	6.22	----	May	6.07	6.27	6.79	May	5.57	5.93	6.33	7.05	May	----	----	----	----
June	6.42	5.68	6.11	6.43	7.07	6.50	6.35	----	June	6.19	6.38	6.93	June	5.68	6.02	6.48	7.22	June	----	----	----	----
July	6.44	5.67	6.05	6.47	7.16	6.50	6.38	----	July	6.13	6.40	6.97	July	5.67	5.97	6.54	7.35	July	----	----	----	----
Aug.	6.42	5.64	6.01	6.46	7.15	6.48	6.35	----	Aug.	6.09	6.37	6.98	Aug.	5.64	5.92	6.55	7.31	Aug.	----	----	----	----
Sept.	6.50	5.65	6.03	6.55	7.31	6.59	6.41	----	Sept.	6.13	6.49	7.15	Sept.	5.65	5.93	6.60	7.47	Sept.	----	----	----	----
Oct.	7.56	6.28	6.79	7.58	8.88	7.70	7.42	----	Oct.	6.95	7.56	8.58	Oct.	6.28	6.63	7.60	9.17	Oct.	----	----	----	----
Nov.	7.65	6.12	6.73	7.68	9.21	7.80	7.49	----	Nov.	6.83	7.60	8.98	Nov.	6.12	6.63	7.76	9.44	Nov.	----	----	----	----
Dec.	6.73	5.06	5.81	6.70	8.45	6.87	6.59	----	Dec.	5.93	6.54	8.13	Dec.	5.06	5.68	6.85	8.76	Dec.	----	----	----	----
2009																						
Jan.	6.59	5.05	5.84	6.46	8.14	6.77	6.41	----	Jan.	6.01	6.39	7.90	Jan.	5.05	5.67	6.52	8.39	Jan.	----	----	----	----
Feb.	6.64	5.27	6.02	6.47	8.08	6.72	6.56	----	Feb.	6.11	6.30	7.74	Feb.	5.27	5.93	6.62	8.42	Feb.	----	----	----	----
Mar.	6.84	5.50	6.11	6.66	8.42	6.85	6.83	----	Mar.	6.14	6.42	8.00	Mar.	5.50	6.07	6.90	8.84	Mar.	----	----	----	----
Apr.	6.85	5.39	6.17	6.70	8.39	6.90	6.79	----	Apr.	6.20	6.48	8.03	Apr.	5.39	6.14	6.90	8.74	Apr.	----	----	----	----
May	6.79	5.54	6.24	6.67	8.06	6.83	6.75	----	May	6.23	6.49	7.76	May	5.54	6.24	6.84	8.36	May	----	----	----	----
June	6.52	5.61	6.12	6.39	7.50	6.54	6.49	----	June	6.13	6.20	7.30	June	5.61	6.11	6.58	7.69	June	----	----	----	----
July	6.17	5.41	5.71	6.09	7.09	6.15	6.18	----	July	5.63	5.97	6.87	July	5.41	5.78	6.20	7.30	July	----	----	----	----
Aug.	5.83	5.26	5.45	5.78	6.58	5.80	5.86	----	Aug.	5.33	5.71	6.36	Aug.	5.26	5.56	5.84	6.79	Aug.	----	----	----	----
Sept.	5.61	5.13	5.21	5.56	6.31	5.60	5.62	----	Sept.	5.15	5.53	6.12	Sept.	5.13	5.27	5.58	6.50	Sept.	----	----	----	----
Oct.	5.63	5.15	5.24	5.57	6.29	5.64	5.61	----	Oct.	5.23	5.55	6.14	Oct.	5.15	5.25	5.59	6.44	Oct.	----	----	----	----
Nov.	5.68	5.19	5.29	5.64	6.32	5.71	5.64	----	Nov.	5.33	5.64	6.18	Nov.	5.19	5.26	5.64	6.46	Nov.	----	----	----	----
Dec.	5.78	5.26	5.44	5.77	6.37	5.86	5.71	----	Dec.	5.52	5.79	6.26	Dec.	5.26	5.36	5.74	6.47	Dec.	----	----	----	----
2010																						
Jan.	5.76	5.26	5.50	5.76	6.25	5.83	5.69	----	Jan.	5.55	5.77	6.16	Jan.	5.26	5.44	5.73	6.33	Jan.	----	----	----	----
Feb.	5.86	5.35	5.62	5.84	6.34	5.94	5.79	----	Feb.	5.69	5.87	6.25	Feb.	5.35	5.55	5.80	6.43	Feb.	----	----	----	----
Mar.	5.81	5.27	5.57	5.80	6.27	5.90	5.71	----	Mar.	5.64	5.84	6.22	Mar.	5.27	5.49	5.75	6.32	Mar.	----	----	----	----
Apr.	5.80	5.29	5.57	5.78	6.25	5.87	5.71	----	Apr.	5.62	5.81	6.19	Apr.	5.29	5.50	5.74	6.32	Apr.	----	----	----	----
May	5.52	4.96	5.25	5.49	6.05	5.59	5.44	----	May	5.29	5.50	5.97	May	4.96	5.19	5.47	6.13	May	----	----	----	----
June	5.52	4.88	5.16	5.44	6.23	5.62	5.42	----	June	5.22	5.46	6.18	June	4.88	5.11	5.42	6.28	June	----	----	----	----
July	5.32	4.72	4.96	5.25	6.01	5.41	5.23	----	July	4.99	5.26	5.98	July	4.72	4.92	5.23	6.04	July	----	----	----	----
Aug.	5.05	4.49	4.72	5.00	5.66	5.10	4.98	----	Aug.	4.75	5.01	5.55	Aug.	4.49	4.68	4.98	5.77	Aug.	----	----	----	----
Sept.	5.05	4.53	4.72	5.01	5.66	5.10	5.00	----	Sept.	4.74	5.01	5.53	Sept.	4.53	4.70	5.00	5.78	Sept.	----	----	----	----
Oct.	5.15	4.68	4.83	5.09	5.72	5.20	5.08	----	Oct.	4.89	5.10	5.62	Oct.	4.68	4.77	5.07	5.81	Oct.	----	----	----	----
Nov.	5.37	4.87	5.07	5.33	5.92	5.45	5.29	----	Nov.	5.12	5.37	5.85	Nov.	4.87	5.02	5.29	5.99	Nov.	----	----	----	----
Dec.	5.55	5.02	5.26	5.52	6.10	5.64	5.46	----	Dec.	5.32	5.56	6.04	Dec.	5.02	5.19	5.47	6.15	Dec.	----	----	----	----
2011																						
Jan.	5.56	5.04	5.26	5.53	6.09	5.64	5.46	----	Jan.	5.29	5.57	6.06	Jan.	5.04	5.22	5.48	6.11	Jan.	----	----	----	----
Feb.	5.66	5.22	5.37	5.64	6.15	5.73	5.58	----	Feb.	5.42	5.68	6.10	Feb.	5.22	5.31	5.59	6.19	Feb.	----	----	----	----
Mar.	5.55	5.13	5.28	5.52	6.03	5.62	5.48	----	Mar.	5.33	5.56	5.97	Mar.	5.13	5.22	5.48	6.09	Mar.	----	----	----	----
Apr.	5.56	5.16	5.29	5.52	6.02	5.62	5.49	----	Apr.	5.32	5.55	5.98	Apr.	5.16	5.25	5.48	6.06	Apr.	----	----	----	----
May	5.33	4.96	5.06	5.29	5.78	5.38	5.27	----	May	5.08	5.32	5.74	May	4.96	5.04	5.26	5.81	May	----	----	----	----
June	5.30	4.99	5.04	5.26	5.75	5.33	5.27	----	June	5.04	5.26	5.67	June	4.99	5.02	5.25	5.82	June	----	----	----	----
July	5.30	4.93	5.03	5.26	5.76	5.34	5.25	----	July	5.05	5.27	5.70	July	4.93	4.99	5.25	5.81	July	----	----	----	----
Aug.	4.79	4.37	4.47	4.74	5.36	4.78	4.79	----	Aug.	4.44	4.69	5.22	Aug.	4.37	4.50	4.79	5.49	Aug.	----	----	----	----
Sept.	4.60	4.09	4.23	4.54	5.27	4.61	4.58	----	Sept.	4.24	4.48	5.11	Sept.	4.09	4.21	4.59	5.42	Sept.	----	----	----	----
Oct.	4.60	3.98	4.16	4.54	5.37	4.66	4.54	----	Oct.	4.21	4.52	5.24	Oct.	3.98	4.11	4.56	5.50	Oct.	----	----	----	----
Nov.	4.39	3.87	3.97	4.34	5.14	4.37	4.41	----	Nov.	3.92	4.25	4.93	Nov.	3.87	4.01	4.43	5.34	Nov.	----	----	----	----
Dec.	4.47	3.93	4.03	4.40	5.25	4.47	4.47	----	Dec.	4.00	4.33	5.07	Dec.	3.93	4.06	4.46	5.43	Dec.	----	----	----	----
2012																						
Jan.	4.45	3.85	4.01	4.39	5.23	4.48	4.41	----	Jan.	4.03	4.34	5.06	Jan.	3.85	3.98	4.43	5.39	Jan.	----	----	----	----
Feb.	4.42	3.85	3.99	4.39	5.14	4.47	4.37	----	Feb.	4.02	4.36	5.02	Feb.	3.85	3.96	4.41	5.26	Feb.	----	----	----	----
Mar.	4.54	3.99	4.14	4.51	5.23	4.59	4.50	----	Mar.	4.16	4.48	5.13	Mar.	3.99	4.12	4.53	5.33	Mar.	----	----	----	----
Apr.	4.49	3.96	4.08	4.44	5.19	4.53	4.44	----	Apr.	4.10	4.40	5.11	Apr.	3.96	4.06	4.48	5.27	Apr.	----	----	----	----
May	4.33	3.80	3.91	4.26	5.07	4.36	4.30	----	May	3.92	4.20	4.97	May	3.80	3.90	4.32	5.17	May	----	----	----	----
June	4.22	3.64	3.78	4.14	5.02	4.26	4.18	----	June	3.79	4.08	4.91	June	3.64	3.77	4.18	5.13	June	----	----	----	----
July	4.03	3.40	3.54	3.93	4.87	4.12	3.93	----	July	3.58	3.93	4.85	July	3.40	3.49	3.93	4.89	July	----	----	----	----
Aug.	4.09	3.48	3.61	3.99	4.91																	